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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/654,274	09/01/2000	Yoshinori Miyajima	32930	5858

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EXAMINER

APPIAH, CHARLES NANA

ART UNIT	PAPER NUMBER
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2686

DATE MAILED: 06/24/2004

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/654,274

Applicant(s)

MIYAJIMA ET AL.

Examiner

Charles Appiah

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-22 and 24-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-16 and 24-28 is/are allowed.
- 6) ☒ Claim(s) 1,3-6,17,20 and 29-31 is/are rejected.
- 7) ☒ Claim(s) 7-11,18,19,21 and 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 3-6, 9, 17, 20 and 29-31 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 3-6, 9, 17, 20/1, 29, 30, 31/17, 31/29 and 31/30 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Rich et al. (5,758,271)** in view of **Umemoto et al. (4,939,766)**.

Regarding claims 1, 3-4, 17, 29 and 30, Rich discloses a radio receiver comprising: a gain controlling means (112), for controlling a gain of the radio receiver (108), an electric field intensity detecting means (217) for detecting an electric field intensity of a received signal (see col. 6, lines 46-57), an error rate measuring means for measuring an error rate of the received signal (see col. 6, lines 27-34), and a first controlling means for causing the gain controlling means to start the gain control operation when the electric field intensity detected by the electric field intensity detecting means reaches the threshold of electric field intensity level which starts the gain control operation (see col. 7, line 54 to col. 8, line 14, col. 10, lines 44-57). See Figs. 1-3. Rich further teaches, as illustrated in Fig. 4, an alternative gain controller that uses comparators to determine whether the quality of a received signal is favorable or

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unfavorable and based on the outcome of the comparison, adjusts the gain of the receiver (see col. 10, lines 15-43). Rich, however, fails to teach, a threshold setting means for setting a threshold of an electric field intensity level based on the measured error rate of the received signal or based on the transmission condition of the received signal, wherein the threshold setting is varied depending on a transmission condition.

Umemoto discloses a radio-telephone system that includes a received-field strength detector with a variable threshold level type which can be varied to correspond to a received electric field intensity (see col. 6, lines 37-66). According to Umemoto, the variable threshold can be arbitrarily modified to be set at different levels in order to maintain desired communications with high quality and the prevention of interference (see col. 8, lines 24-51, col. 9, lines 5-33).

It would therefore have been obvious to one of ordinary skill in the art to incorporate the dynamic threshold radio-telephone system of Umemoto into the system of Rich in order to ensure high quality communications based on received electric field intensity of received signals.

Regarding claims 5 and 6, Rich further shows wherein the gain controlling means is a stepwise gain control type, which changes the gain by a predetermined amount when a signal of the received signal exceeds a predetermined level or a continuous gain control type which changes the gain in response to a signal level of the received signal (see col. 8, lines 15-48, col. 10, lines 1-15).

Regarding claim 9/1, Rich further discloses a threshold range setting means for setting an available range of the threshold of electric intensity level, which is defined by a maximum value and a minimum value (see col. 8, lines 32-38).

Regarding claim 20/17, Rich further discloses a threshold range setting means for setting an available range of the threshold of electric intensity level, which is defined by a maximum value and a minimum value (see col. 8, lines 32-38).

Regarding claim 31/17, 31/29 and 31/30, Rich's teaching of implementing the gain controller in software and using a signal processor (see col. 5, lines 47-67), read on a computer-readable recording medium for storing a program which causes a computer to execute a radio receiving method.

Allowable Subject Matter

4. Claims 12-16, 24-28 are allowed.
5. Claims 7, 8, 9, 10, 11, 18, 19, 21, and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sugi (6,167,281) teaches a mobile communication device that communicates with a base station under variable field intensities.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Appiah whose telephone number is 703 305-4772. The examiner can normally be reached on M-F 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on 703 305-4379. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CA
June 18 2004


CHARLES APPIAH
PRIMARY EXAMINER